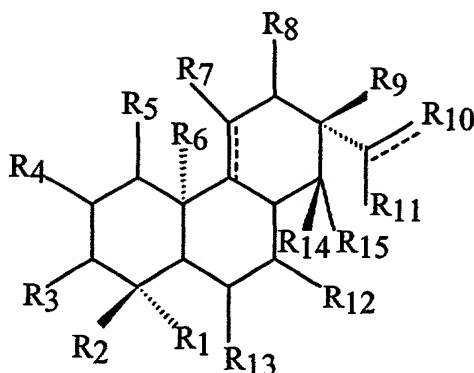


WHAT IS CLAIMED IS:

1. A compound having the following chemical structure:



wherein:

if any  $R_3$ - $R_5$ ,  $R_7$ ,  $R_8$ ,  $R_{11}$ - $R_{15}$  is not hydrogen,  $R_2$  or  $R_6$  or  $R_9$  is not methyl, or  $R_{10}$  is not  $\text{CH}_2$ , then  $R_1$  is selected from the group consisting of hydrogen, a halogen,  $\text{COOH}$ ,  $\text{C}_1$ - $\text{C}_{12}$  carboxylic acids,  $\text{C}_1$ - $\text{C}_{12}$  acyl halides,  $\text{C}_1$ - $\text{C}_{12}$  acyl residues,  $\text{C}_1$ - $\text{C}_{12}$  esters,  $\text{C}_1$ - $\text{C}_{12}$  secondary amides,  $(\text{C}_1$ - $\text{C}_{12})$ ( $\text{C}_1$ - $\text{C}_{12}$ ) tertiary amides,  $\text{C}_1$ - $\text{C}_{12}$  alcohols,  $(\text{C}_1$ - $\text{C}_{12})$ ( $\text{C}_1$ - $\text{C}_{12}$ ) ethers,  $\text{C}_1$ - $\text{C}_{12}$  alkyls,  $\text{C}_1$ - $\text{C}_{12}$  substituted alkyls,  $\text{C}_2$ - $\text{C}_{12}$  alkenyls,  $\text{C}_2$ - $\text{C}_{12}$  substituted alkenyls, and  $\text{C}_5$ - $\text{C}_{12}$  aryls; but

if all  $R_3$ - $R_5$ ,  $R_7$ ,  $R_8$ ,  $R_{11}$ - $R_{13}$  are hydrogen,  $R_2$ ,  $R_6$ , and  $R_9$  are each methyl, and  $R_{10}$  is  $\text{CH}_2$ , then  $R_1$  is selected from hydrogen, a halogen,  $\text{C}_1$ - $\text{C}_{12}$  carboxylic acids,  $\text{C}_1$ - $\text{C}_{12}$  acyl halides,  $\text{C}_1$ - $\text{C}_{12}$  acyl residues,  $\text{C}_2$ - $\text{C}_{12}$  esters,  $\text{C}_2$ - $\text{C}_{12}$  secondary amides,  $(\text{C}_1$ - $\text{C}_{12})$ ( $\text{C}_1$ - $\text{C}_{12}$ ) tertiary amides,  $\text{C}_2$ - $\text{C}_{12}$  alcohols,  $(\text{C}_1$ - $\text{C}_{12})$ ( $\text{C}_1$ - $\text{C}_{12}$ ) ethers other than methyl-acetyl ether,  $\text{C}_2$ - $\text{C}_{12}$  alkyls,  $\text{C}_1$ - $\text{C}_{12}$  substituted alkyls,  $\text{C}_2$ - $\text{C}_{12}$  alkenyls,  $\text{C}_2$ - $\text{C}_{12}$  substituted alkenyls, and  $\text{C}_2$ - $\text{C}_{12}$  aryls;

$R_2$  and  $R_9$  are each separately selected from hydrogen, a halogen,  $\text{C}_1$ - $\text{C}_{12}$  alkyl,  $\text{C}_1$ - $\text{C}_{12}$  substituted alkyls,  $\text{C}_2$ - $\text{C}_{12}$  alkenyl,  $\text{C}_2$ - $\text{C}_{12}$  substituted alkenyl,  $\text{C}_2$  -  $\text{C}_{12}$  alkynyl,  $\text{C}_1$ - $\text{C}_{12}$  alcohol,  $\text{C}_1$ - $\text{C}_{12}$  acyl, and  $\text{C}_5$ - $\text{C}_{12}$  aryl;

$R_3$ - $R_5$ ,  $R_7$ ,  $R_8$ , and  $R_{11}$ - $R_{13}$  are each separately selected from hydrogen, a halogen,  $\text{C}_1$ - $\text{C}_{12}$  alkyl,  $\text{C}_1$ - $\text{C}_{12}$  substituted alkyls,  $\text{C}_2$ - $\text{C}_{12}$  alkenyl,  $\text{C}_2$ - $\text{C}_{12}$  substituted alkenyl,  $\text{C}_2$ - $\text{C}_{12}$  alkynyl, and  $\text{C}_5$ - $\text{C}_{12}$  aryl;

$R_6$  is selected from hydrogen, a halogen,  $\text{C}_1$ - $\text{C}_{12}$  alkyl,  $\text{C}_1$ - $\text{C}_{12}$  substituted alkyls,  $\text{C}_2$ - $\text{C}_{12}$  alkenyl,  $\text{C}_2$ - $\text{C}_{12}$  substituted alkenyl, and  $\text{C}_2$ - $\text{C}_{12}$  alkynyl;

R<sub>10</sub> is selected from hydrogen, a halogen, CH<sub>2</sub>, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> substituted alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> substituted alkenyl, C<sub>1</sub>-C<sub>12</sub> alcohol, and C<sub>5</sub>-C<sub>12</sub> aryl; and

R<sub>14</sub> and R<sub>15</sub> are separately selected from hydrogen, a halogen, CH<sub>2</sub>, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> substituted alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> substituted alkenyl, C<sub>1</sub>-C<sub>6</sub> alcohol, and C<sub>5</sub>-C<sub>6</sub> aryl;

wherein the compound includes the prodrug esters of the above compounds, and the acid-addition salts thereof.

2. The compound of Claim 1, wherein:

R<sub>1</sub> is selected from hydrogen, a halogen, C<sub>1</sub>-C<sub>12</sub> carboxylic acids, C<sub>1</sub>-C<sub>12</sub> acyl halides, C<sub>1</sub>-C<sub>12</sub> acyl residues, C<sub>2</sub>-C<sub>12</sub> esters, C<sub>2</sub>-C<sub>12</sub> secondary amides, (C<sub>1</sub>-C<sub>12</sub>)(C<sub>1</sub>-C<sub>12</sub>) tertiary amides, C<sub>2</sub>-C<sub>12</sub> alcohols, (C<sub>1</sub>-C<sub>12</sub>)(C<sub>1</sub>-C<sub>12</sub>) ethers other than methyl-acetyl ether, C<sub>2</sub>-C<sub>12</sub> alkyls, C<sub>1</sub>-C<sub>12</sub> substituted alkyls, C<sub>2</sub>-C<sub>12</sub> alkenyls, C<sub>2</sub>-C<sub>12</sub> substituted alkenyls, and C<sub>2</sub>-C<sub>12</sub> aryls.

3. The compound of Claim 1, wherein:

R<sub>1</sub> is selected from the group consisting of hydrogen, a halogen, COOH, C<sub>1</sub>-C<sub>12</sub> carboxylic acids, C<sub>1</sub>-C<sub>12</sub> acyl halides, C<sub>1</sub>-C<sub>12</sub> acyl residues, C<sub>1</sub>-C<sub>12</sub> esters, C<sub>1</sub>-C<sub>12</sub> secondary amides, (C<sub>1</sub>-C<sub>12</sub>)(C<sub>1</sub>-C<sub>12</sub>) tertiary amides, C<sub>1</sub>-C<sub>12</sub> alcohols, (C<sub>1</sub>-C<sub>12</sub>)(C<sub>1</sub>-C<sub>12</sub>) ethers, C<sub>1</sub>-C<sub>12</sub> alkyls, C<sub>1</sub>-C<sub>12</sub> substituted alkyls, C<sub>2</sub>-C<sub>12</sub> alkenyls, C<sub>2</sub>-C<sub>12</sub> substituted alkenyls, and C<sub>5</sub>-C<sub>12</sub> aryls.

4. The compound of Claim 1, wherein R<sub>1</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>12</sub> esters and C<sub>1</sub>-C<sub>12</sub> acyl residues.

5. The compound of Claim 1, wherein R<sub>1</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>6</sub> esters.

6. The compound of Claim 1, wherein R<sub>10</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>6</sub> alkyl groups and C<sub>2</sub>-C<sub>6</sub> alkenyl groups.

7. The compound of Claim 1, wherein R<sub>3</sub>-R<sub>5</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>11</sub>-R<sub>15</sub> is each hydrogen.

8. The compound of Claim 1, wherein R<sub>3</sub>-R<sub>5</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>11</sub>-R<sub>15</sub> is each hydrogen; R<sub>2</sub>, R<sub>6</sub>, and R<sub>9</sub> are each methyl; and R<sub>10</sub> is CH<sub>2</sub>.

9. The compound of Claim 1, wherein  $R_{15}$  is hydrogen, and  $R_{14}$  is selected from hydrogen, a halogen,  $C_2-C_6$  alcohols,  $C_2-C_6$  alkyls,  $C_1-C_6$  substituted alkyls,  $C_2-C_6$  alkenyls,  $C_2-C_6$  substituted alkenyls, and  $C_5-C_6$  aryls.

10. A method of treating a disease condition selected from the group consisting of inflammation, tuberculous pleurisy, rheumatoid pleurisy, cancer, cardiovascular disease, skin redness, diabetes, transplant rejection, otitis media (inner ear infection), sinusitis, and viral infection comprising:

identifying an animal with said disease condition; and

contacting a compound to living tissue of said animal, wherein the compound is the compound of Claim 1.

11. The method of Claim 10, wherein the compound is the compound of Claim 2.

12. The method of Claim 10, wherein the compound is the compound of Claim 3.

13. The method of Claim 10, wherein the compound is the compound of Claim 4.

14. The method of Claim 10, wherein the compound is the compound of Claim 5.

15. The method of Claim 10, wherein the compound is the compound of Claim 6.

16. The method of Claim 10, wherein the compound is the compound of Claim 7.

17. The method of Claim 10, wherein the compound is the compound of Claim 8.

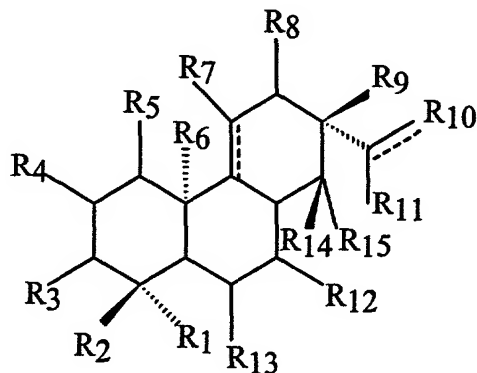
18. The method of Claim 10, wherein the compound is the compound of Claim 9.

19. A method of treating a disease condition selected from the group consisting of tuberculous pleurisy, rheumatoid pleurisy, cancer, cardiovascular disease, skin redness, diabetes, transplant rejection, otitis media (inner ear infection), sinusitis, and viral infection comprising:

identifying an animal with said disease condition; and

contacting a compound selected from (a) acanthoic acid, (b) (-)-pimara-9(11), 15-dien-19-ol, (c) (-)-pimara-9(11), 15-dien-19-oic acid, (d) (-)-pimara-9(11), 15-dien-19-ol 19-acetate, (e) (-)-pimara-9(11), 15-diene, and (f) the methyl ester analog of acanthoic acid, to living tissue of said animal.

20. A method of making a synthetic compound having the following chemical structure:



wherein:

R<sub>1</sub> is selected from the group consisting of hydrogen, a halogen, COOH, C<sub>1</sub>-C<sub>12</sub> carboxylic acids, C<sub>1</sub>-C<sub>12</sub> acyl halides, C<sub>1</sub>-C<sub>12</sub> acyl residues, C<sub>1</sub>-C<sub>12</sub> esters, C<sub>1</sub>-C<sub>12</sub> secondary amides, (C<sub>1</sub>-C<sub>12</sub>)(C<sub>1</sub>-C<sub>12</sub>) tertiary amides, C<sub>1</sub>-C<sub>12</sub> alcohols, (C<sub>1</sub>-C<sub>12</sub>)(C<sub>1</sub>-C<sub>12</sub>) ethers, C<sub>1</sub>-C<sub>12</sub> alkyls, C<sub>1</sub>-C<sub>12</sub> substituted alkyls, C<sub>2</sub>-C<sub>12</sub> alkenyls, C<sub>2</sub>-C<sub>12</sub> substituted alkenyls, and C<sub>5</sub>-C<sub>12</sub> aryls;

R<sub>2</sub> and R<sub>9</sub> are each separately selected from hydrogen, a halogen, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyls, C<sub>2</sub>-C<sub>12</sub> alkenyl, C<sub>2</sub>-C<sub>12</sub> substituted alkenyl, C<sub>2</sub> - C<sub>12</sub> alkynyl, C<sub>1</sub>-C<sub>12</sub> alcohol, C<sub>1</sub>-C<sub>12</sub> acyl, and C<sub>5</sub>-C<sub>12</sub> aryl;

R<sub>3</sub>-R<sub>5</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>11</sub>-R<sub>13</sub> are each separately selected from hydrogen, a halogen, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyls, C<sub>2</sub>-C<sub>12</sub> alkenyl, C<sub>2</sub>-C<sub>12</sub> substituted alkenyl, C<sub>2</sub>-C<sub>12</sub> alkynyl, and C<sub>5</sub>-C<sub>12</sub> aryl;

R<sub>6</sub> is selected from hydrogen, a halogen, C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyls, C<sub>2</sub>-C<sub>12</sub> alkenyl, C<sub>2</sub>-C<sub>12</sub> substituted alkenyl, and C<sub>2</sub>-C<sub>12</sub> alkynyl;

R<sub>10</sub> is selected from hydrogen, a halogen, CH<sub>2</sub>, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> substituted alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> substituted alkenyl, C<sub>1</sub>-C<sub>12</sub> alcohol, and C<sub>5</sub>-C<sub>12</sub> aryl; and

R<sub>14</sub> and R<sub>15</sub> are separately selected from hydrogen, a halogen, CH<sub>2</sub>, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> substituted alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> substituted alkenyl, C<sub>1</sub>-C<sub>6</sub> alcohol, and C<sub>5</sub>-C<sub>6</sub> aryl

wherein the compound includes the prodrug esters of the above compounds, and the acid-addition salts thereof;

comprising the steps of:

performing a Diels-Alder reaction reacting a diene having two or more rings with a dienophile compound to yield a resultant compound have three or more rings; and

yielding the synthetic compound.